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OUTLINES

OF

SCOTTISH ARCHÆOLOGY.

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BY

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"Thus I entertain
The Antiquarian humour, and am pleased
To skim along the surface of things,
Beguiling harmlessly the listless hours."

Wordsworth's "Excursion."

EDINBURGH:
EDMONSTON & DOUGLAS.

1870.

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PREFACE.

THE object of this brief sketch is to supply a cheap outline of Archæology to those who have not access to larger works. Of course, it does not contain everything that belongs to the subject; its limits forbid that. There are many, especially country people, who have, by their own observation, collected many facts and objects which are in a great measure lost for want of a few hints as to their meaning and use. The compiler's wish is to meet this want, and to induce further study of the subject. The greater part of the material is from Professor Daniel Wilson's "Archæology," but other authorities have been consulted. The compiler is specially indebted to John Stuart, Esq., LL.D., the learned Secretary of the Society of Antiquaries of Scotland, whose Archæological knowledge may be considered as practically exhaustive, for many hints and corrections as to matters of fact. He has also to thank him for the use of several engravings, and for procuring the use of others from the Society which he so well serves, and which has so greatly promoted the study of Archæology in Scotland.

The few remarks on speculative questions in the end stand on a different footing. For them, the writer solely is

responsible. They are added, not as absolute solutions of the problems, but as suggestive of a simple theory, which is intelligible, if not correct. Many who would be deterred by a dry muster-roll may find some interest in a sketch which they can colour for themselves as they attain a mastery over facts. The outline part is intended as a companion to the *Finder;* the other is added as an Introduction to the *Theorist*, in the belief that, at an early stage of study, any simple suggestions are useful, and with the hope that these views will not be found to vary from the conclusions of maturer research.

G. S.

ARCHÆOLOGY.

INTRODUCTORY.

ARCHÆOLOGY, in its widest sense, deals with all things that are old, antiquated, and out of date. In its narrower application, as it is now commonly used, it is restricted to that period of human existence which passed before the introduction of written records. In this sense, Archæology ends where History begins; and the branch of historical enquiry which deals with the same sort of material is more commonly spoken of as the study of Antiquities. The distinction is neither clearly marked in itself, nor well observed in ordinary use, but, for the sake of defining and limiting the field, the line of separation must be drawn somewhere; and nowhere seems so appropriate as where History first begins to cast a steadier light on the progress of man. Archæology stands alone; Antiquarianism is a buttress of History: both deal with the work of man's hand, the evidence of his presence, the traces of his occupation; but, in the fuller and surer light of history, Antiquarianism sinks into a subsidiary position; while Archæology, in the absence of all, save its own revelations, occupies the whole field of primitive life, and is, for its own period, our sole substitute for History, political and social.

ARCHÆOLOGY AND HISTORY.

The period with which Archæology deals varies in different countries; varies, both in length, and in its position, in the great stream of time. One country has reached the height of civilization at the time when another lies in the depth of

barbarism, and the passage from the one state to the other has been made with unequal speed in divers nations. And it is with this passage that Archæology is occupied. It begins when man leaves traces, however rude, of his presence; it ends when the testimony of written documents proves the presence of civilization.

Or, to look at it in another way;—Archæology is all we have to throw light on the great space of time that lies between Geology and History. It comes in between these two, and is distinct from both, though it meets both. It meets Geology, but its kindred is with History, for the subject of both is man. Archæology is based on the traces of man's presence, the remains of his habitations, his burying-places, and the relics of his workmanship. History is built up from the records of man's doings, his wars, his legislation, his inventions. They both deal with the distinctions of earlier and later; the one as well as the other recognises the sequence of cause and effect, and frequently traces the connection of motive and line of action; but Archæology makes no note of seasons and years; History is founded on dates. Archæology knows nothing of individuals; prince and peasant are alike unnamed and unknown: History is made up of the doings of representative men, and the relations of classes and nations. All that Archæology aims at is a picture, or series of pictures, consistent in itself, and guaranteed in its details by the remains we have discovered; History reproduces the past in action, and ought to be not only consistent in itself, but absolutely correct in its statements. Archæology is made up of inferences from circumstantial evidence; History deals with facts derived from direct testimony. In these points they are contrasted; still, they not only meet, but mingle. Their subject is the same, man and his doings. Early History must always be in accordance with Archæology, and is often corroborated by its testimony. Some early monuments are common property to both. The Archæologist and the Antiquarian are commonly united in the same person; and the Historian reaps the fruit of his labour in both fields. From the

beginning of History, Archæology stretches backward to the borders of the field of Geology. The traces of man are found alongside the remains of animals that are now no longer to be found on the face of the earth. This leads us back to an unknown distance in time;—unknown, because unascertained. Its extent is no doubt great, but we have not sufficient data to fix it with anything like proximate certainty. So far is this limit beyond the bounds of definite chronology, that even the primary relation of earlier and later often becomes more or less uncertain; and, except for speculative purposes, comparatively unimportant.

QUEEN'S REMEMBRANCER.

The object of this paper is to help those who are likely to meet with Archæological remains to recognise them, in the first place, as worthy of preservation; and, as a further step, to observe such details of the circumstances under which they are found as may best illustrate their intention and use. Many things have been turned up by the spade and the plough, or sifted from the earth by the harrows, which have been neglected in simple ignorance, or carried about for a few days as a "curiosity," and then either forgot or wantonly destroyed. Sometimes more valuable articles are deliberately concealed and put out of shape, in the idea that, if told of, the finder would be deprived of all advantage. This is a mistake. The lucky finder of any such prize can obtain from the Queen's Remembrancer (through the Sheriff and policeman of the district) more than any goldsmith or private dealer can afford to give. If the "find" is not of any intrinsic value, but only a "curiosity," the finder will obtain grateful thanks for it, if nothing more tangible, from any local collector or Museum.

MUSEUMS.

Amongst us these things have been, until lately, objects of enthusiastic research to a few, rather than of intelligent interest to the many; but now a more general spirit of

enquiry seems to be awakened. The wider support given to the Society of Antiquaries has enabled them to exercise a more general superintendence over the monuments of antiquity, while their wide connexion has enabled them to accumulate a great number of smaller objects in their Museum. Their Museum is not only a receptacle for the preservation of such objects, but also a schoolroom where the lesson of primitive life is taught more plainly and forcibly than by any amount of reading. Specimens, which when asunder are merely curiosities, become here, when placed side by side with their fellows, intelligible witnesses, supplying each its portion to the picture which the Archæologist wishes to exhibit of the manners and customs of the early races. The Society forms also a centre to which all reports of discoveries and "finds" in their line may be directed with full confidence that they will be patiently listened to, and, if necessary, the matter more fully investigated by men who have deeply studied the subject. Many interesting specimens have been lost, and many instructive reports are to be found only buried in old magazines and local papers of bygone days, for want of some such Association to exercise a general superintendence over this province; especially to direct systematic researches, and to receive, preserve, and publish the contemporary reports of accidental discoveries.

DIVISION OF SUBJECT.

Archæologists recognise three divisions of the subject with which they deal—corresponding in a general way to three successive periods, or stages of civilization. These are known as the Stone, the Bronze, and the Iron periods—so called from the material of which the arms and implements of the time were formed.

During the earliest stage, or Stone Period, the Metals were unknown. This is believed to have been the longest by far of the three divisions; in fact, as concerns our own country, to have extended over nearly the whole of the pre-

historic era. Then followed a time in which Bronze was used—a shorter and apparently a very active period, a season of progress. Then, lastly, Iron was introduced, and upon this period the light of History dawns.

In speaking of these three periods or ages, two cautions must be observed :—first, they are successive only in a rough sort of way; no bronzes are found in the Stone period, and no iron in the Bronze period; but stone arms and implements continue through both the other periods, and bronze was perhaps as common as iron when the Romans invaded Britain. Secondly, when we speak of these periods we speak not of any definite space of time, but of a stage in a people's progress. The specific date of which we speak is determined by considerations outside the sphere of Archæology; in short by external history. If this were wanting we should have nothing to show that the stone implements of the old world, which are found along with Geological remains of a former state of things, belong to a period chronologically earlier than the similar implements of the Pacific Islands which are in use at the present day.

In each separate land, the Stone, Bronze, and Iron Periods have a definite meaning and a specific place; taken generally, they refer not to date, but to the state of civilization. The Iron period had commenced in our own country when the Romans first brought it into the region of History, and from that point we must work back to the Bronze and Stone Eras.

Archæologial remains may be arranged for convenience under the two heads of Fixtures and Moveables—a distinction familiar to every householder in the country. The Fixtures may be again divided into the lesser heads of *Dwelling-places*, including Camps and Forts; *Graves* and *Monuments*, Sepulchral and Historical. The Moveables may be divided into *Armour*, *Implements*, and *Ornaments*. This is a very rough division; and it is impossible always to adhere to it; but any arrangement, however rude, is better than miscellaneous confusion.

We have now two classifications: one in the order of progress, Stone, Bronze, and Iron; the other according to the nature of the object, Fixtures and Moveables, with their several subdivisions. These two classifications cross each other, thoroughly and regularly. We have fixtures of the Stone period, and moveables of the Stone period, and so of the others. The arrangement in order of progress is best suited for the theoretical investigator of the state and condition of prehistoric man; the other seems more convenient for the ordinary finder of Archæological remains, who knows little of the subject, but simply wishes to learn what it is that has come into his hands. It is for such that this Handbook is intended. It will therefore keep as closely as possible to the arrangement suggested in the previous paragraph, with such remarks on chronological order as may seem necessary for a clear and intelligible statement of the subject.

FIXTURES.

I. Dwelling Places.

The remains of the early dwelling places constitute the first division of fixtures. They must have been of various styles and kinds; some of them very simple and rude, others exhibiting considerable ingenuity of contrivance, and requiring an amount of combination in labour for their execution which we should scarcely expect beforehand to find in the primitive state of society to which they evidently belong. We may reasonably suppose that the most common dwelling places were mere temporary huts or wigwams of branches—places of shelter rather than residences—such as we find amongst tribes in the lowest state of civilization at the present day. Of these, we cannot expect to find traces. *Pit Dwellings* can have been scarcely less rude, but they are signs of a more permanent settlement, and, therefore, of a more advanced civilization. They now appear as slight circular excavations in the soil, and were in all likelihood covered with branches of trees, and, it may be, thatch, or turf. They are most commonly found in groups, and often each pit has a raised rim of earth, probably that dug from the hollow centre. This rim looks like the first rude attempt at a wall. The pit houses rarely exceed five or seven feet in diameter, though some more advanced specimens extend as far as thirty feet. The pit generally contains ashes, and charred fragments of wood, with fragments of bones and vegetable matter. In consequence, the grass is commonly of a fresher green and richer growth inside the pits than around them.

It was a slight advance to strengthen the walls with stones; still further to enclose the whole settlement with a rampart of earth. Specimens remain of both stages; and occasionally some skill is shown in the choice of a position.

Sometimes traces are found of dwelling places of the same style, but constructed with greater care and art. These are rough roundish pavements of stone, six feet or so in diameter, bearing marks of fire, often covered with ashes. They seem to have been the floors of houses, the walls of which were formed probably of branches or wicker-work.

In advance of these are the *Picts' Kilns*, which occur most frequently in the Wigton and Kirkcudbright districts. They are oval or pear-shaped enclosures, now roofless, measuring about sixteen feet in length, and seven or eight in breadth. Externally, the walls seem of earth; internally, they are of small stones, often fire marked. The local tradition is that they were used by the Picts in brewing their mysterious beverage "heather ale."

The Picts' Kilns lead the way to the underground dwellings known as *Weems, Picts' Houses*, or *Yirde Houses*. These are the most singular and interesting of the Primitive dwellings. They are entirely under ground; long and narrow, occasionally in such proportions as sixty feet long by four wide, sometimes as wide as eight or nine feet. The material of the walls is generally such stones as came handiest, but so laid that the two sides approach each other as they rise to the top; at last the roof is laid, of heavy lintels, reaching from side to side, and commonly overlapping each other. These lintels have often been carried a considerable distance, as shown by the nature of the stone. Each Weem has its own peculiar features, but all agree in the converging walls—a substitute for the arch found in the Cyclopean architecture of early Greece, and in the vast buildings of primitive Mexico and Yucatan.

In some cases Yirde Houses have smaller chambers attached to them, built in the same style, and connected by low passages. Traces of the occupants are generally found,

ashes are almost invariably there; fragments of hand mills are frequently, and other articles occasionally, present. Sometimes, but rarely, a chimney seems to have been left at the inner end, and occasionally other attempts at what may be called comfort, can be detected. It is only exceptionally that any regard seems to have been paid to drainage, either in construction or in choice of situation. As a rule, they are entirely underground, with no mark to guide our search, and are discovered merely by accident.

Tacitus relates that the Germans of his day were in the way of constructing caves in the earth, where they laid up their grain, and into which they retired for shelter from the severity of the winter, or the enemy. The frequent occurrence of hand mills in the Yirde Houses looks as if they had been granaries; but the constant presence of bones of animals, both domestic and wild, mixed with charred embers, leaves no doubt that they were used as places of human habitation.

Near some of the Yirde Houses small earthen enclosures, fifteen or twenty paces across, are discernible. These were probably used for folding cattle. Remains of pit houses sometimes occur in the same neighbourhood, as if they were respectively winter and summer residences.

In Orkney, underground houses have been found large enough to contain the population of an entire district. Natural caves have also been adapted for the residence of man. Excavations have been found which look like Yirde Houses that had been covered with wooden rafters instead of stone lintels. These have now decayed, and left the long narrow trench without a roof.

Other dwelling-places seem to have been intended for strongholds in time of war, rather than for ordinary habitation. They are in all probability more recent than the others, as their construction demanded much more combination and skill. They may be classified as the *Hill Fort*, the *Burgh* and the *Crannoge*, or Lake Dwelling.

Of the Mountain Strongholds or Hill Forts, the rudest are merely earthen walls encircling a larger or smaller space

in a commanding position. This wall or rampart was probably strengthened and crowned by pallisades. Akin to these are the small circular forts of stone and earth upon the summit of a hill, commonly of an isolated hill. Inside these are often found human and other bones, flint arrow-heads, and the like. Of similar character are the larger strongholds, to which these smaller may perhaps have served as outposts. They generally give proof of great skill exercised in the selection of the site, and the adaptation of the defence to the nature of the ground. Loose stones are the common materials employed in their construction; traces of building are now rare, but this rarity may be caused by the falling down of the walls. In one case (in Badenoch), where a flat slaty stone has been used, the wall is still from twelve to fourteen feet high; but generally there is only a continuous *heap* of stones round the space enclosed.

With these must be classed the "*Vitrified Forts.*" These are on the same plan as the ordinary Hill Forts, and differ only in being "vitrified," *i.e.*, the wall or rampart is composed of masses of stone run together by fire, like the "danders" of an iron furnace. That these Vitrified Forts were strongholds can scarcely be doubted; how and why they were vitrified scarcely admits of an answer. In some cases, the vitrifaction seems accidental, as by beacon fires or the like; in others, it seems to be plainly intentional, even to the selection of stones most easily fusible. But still the question remains—How did these early races, with their rude appliances, raise heat enough to melt the stubborn stones; and this, too, in such quantities as at Tap o' Noth, where the enclosure is an oval of about 100 yards in length by 40 in breadth? These forts are peculiar to Scotland, with the exception of one in France, and two or three in the valley of the Mississipi. This seems to establish the Vitrified as the original "Scottish style" of Architecture.

The *Burgh* or Pictish Tower is evidently much later than the Hill Fort, and displays much more skill in construction. The general plan is a conical or bell-shaped tower,

built of unhewn stone, without cement, with no ornament, and no opening but a narrow doorway of the rudest description, which, in time of danger, was probably closed by a heavy slab. The great peculiarity of the Burgh is that within the outer cone another tower was raised, with the walls so arranged that, leaving a space between the outer and inner walls of about six feet at the base, the two walls met at the top; the inner being either perpendicular, or inclined outwards, *i.e.*, towards the outer wall. In the space between the walls, a rude staircase, or inclined passage, formed by long stones or slabs entering both walls, wound round and round in a screw form, the roof of one story being the floor of the next. This elongated passage, or series of chambers, was lighted by openings looking to the inner area, which must, therefore, have been open to the sky. These Burghs are peculiar to Scotland, and belong more particularly to the North and West Coast and Isles. Implements and human remains have been found in them; and they seem to have been used as places of refuge so late as the times when the Danes were in the habit of making inroads on Scotland.

A stronghold of a very different character is found in the artificial stockaded islands commonly called *Crannoges*, the name given them by the Irish annalists. The Crannoge is situated in a Loch, at a greater or less distance from the edge, and, as a rule, is formed by surrounding a space with wooden piles, and then filling up the interior with mud, stones, &c., or flooring it over with wooden beams, or a union of both plans. Dwellings, similar to those on the land, in all probability, were erected upon this artificial platform. Within the area of those that have been examined have been found personal ornaments, culinary and other implements of the stone, bronze, and iron periods; and canoes have not unfrequently been found in their vicinity. Their security seems to have depended more on their position than on any means of defence. Sometimes a natural island or rock has been utilized; and the Crannoge may perhaps have given the idea of strengthening a castle by a moat.

These Lake Dwellings are amongst the widest spread relics of primitive life. They were in use in the East in the times of early Greece; their remains are more common in Switzerland than in any other European country; and they were employed by some tribes in Central America when first discovered.

With Strongholds may be mentioned *Trenches*, dug generally on the slope of a hill—most probably for the concealment of cattle on the approach of an enemy.

II. Graves.

From the dwelling-place of the living we pass to the grave of the dead. There we learn more of primitive times than elsewhere. Like other people in a similar state of civilization, the rude tribes of our own country buried with the deceased the armour, ornaments, and implements of life. This may point to a belief in a life beyond the present, or only to a feeling of reluctance to utilize that which was associated with the memory of one who could now use it no more. These articles will come under notice afterwards among the moveables of the early races; at present, it is the grave itself that demands attention.

Two modes of disposing of the remains of the dead were in use:—*burying* and *burning*. In one, the unbroken body was committed to the earth; in the other, only those harder portions that resisted the force of fire. Of these, burial seems the more ancient; then incremation was introduced, judging from the articles found with the remains, perhaps with the bronze period. Afterwards, a return was made to burial, in the iron period, perhaps about the time of the Roman Invasion, or Introduction of Christianity, *i.e.*, about the commencement of our Written History.

The olden graves are, in their simplest forms, rude stone *cists* or *kists*, consisting commonly of four stones as sides and ends, and one as a cover, but no bottom, or, at most, a pebble

laid bottom. They rarely exceed two and a-half feet in length, and the body must have been bent into a sitting posture to be enclosed within so narrow bounds. In these cists, no trace of burning the body is found.

It is only occasionally that any monument marks the place of cists. Accident reveals them, sometimes in solitary obscurity, sometimes, but more rarely, in groups. These groups are oftenest found in irregular, it may be undesigned, proximity, laid down independently and indiscriminately. Occasionally, they are arranged in lines. If any principle can be discovered in their arrangement, it is that there is a tendency to lay them down with the ends N.E. and S.W. In one instance, a double line was found, with the corners of the cists all touching a line drawn from East to West. Markings on the stones are almost unknown. One of an early period in Kyle, had some rudely concentric circles; and another, near Alloa, had two well marked crosses on the cover; as if the custom of folding up the body in the grave had continued down to the times of Christianity.

The *Urn* is in popular opinion connected with the practice of incremation, or burning the bodies of the dead; though, in reality, often found in cists with unburned bodies. Amongst urns, there are many varieties and great differences. They are sometimes of stone, but commonly of unglazed clay: the clay is generally pure, but occasionally mixed with earth

Sepulchral Urns, found at Lesmurdie, Banffshire.

Urn, 4½ inches high, found at Ninewells, Invergowrie, Forfar.

and peat. In a few cases, the chief thickness of the urn is of peat and decayed stone, with a coating of clay.

Urns, containing fragments of burned bones, are sometimes found enclosed in a cist, but more commonly simply imbedded in the earth, with no stone for protection, or to mark the spot. They may be divided into those entirely formed by the unassisted hand, and those "thrown," as it is termed, on the potter's wheel, or some substitute for it; perhaps nothing more than a stake turned round and round, with the lump of clay on its top.

The merely hand shaped are naturally the clumsiest, and may be considered the earliest. Even of the "thrown" or turned specimens, some are very rude, showing no elegance of shape, or attempt at ornament, save the accidental thumb-mark of the potter as he drew the clay upwards. The rudest style of ornament, which we may therefore regard as the earliest, consists of mere lines, as if drawn by the nail of the thumb, or a pin; then come zig-zag lines; then lines as if impressed by twisted cords; then running patterns of straight lines, interlaced or imitations of knitting patterns.

The shape of the urns is far from uniform, generally each has some peculiarity of its own. Some hand made speci-

mens are almost shapeless. The earlier or ruder turned are straight, or slightly hollowed inward in the middle:—later ones are widened and narrowed, some at the mouth, some at the bottom. The ordinary height of urns is from six to ten, though some are found as high as from fourteen to sixteen, inches.

Smaller vessels of the same construction as urns are sometimes found in cists—even with unburned skeletons. These, especially when perforated for suspension, may have been *lamps*, to enlighten; or they may have been receptacles for food to support the deceased on the way to another world. They are often ornamented with patterns, not ungracefully formed, of incised lines. Cists containing such vessels may not unreasonably be looked on as of a later date. Pottery with ears or handles is rare and of late date.

III. Monuments.

From the graves we pass very naturally to *Monuments*. These are for the most part sepulchral; and it is convenient to deal with them all as one class, even though in some cases their object may be doubtful. Monuments may be divided into *Cairns*, *Mounds*, and *Standing Stones*, either single or in groups.

To the *Cairn* of stones, unmixed with earth, must be given the pre-eminence over the earthen mound in Scotland, both in point of antiquity and in frequency of occurrence. This frequency is seen in the word *cairn* entering so commonly into names of localities. It seems to have been a favourite memorial from the remotest period of rude stone implements, down to historical times; and its use can scarcely be said to be extinct at the present day.

Cairns vary much in their size and in the care with which they are built up. Some are mere heaps of stones, a few feet in diameter: others as much as thirty yards or even more across. Many have been raised with great care; some regularly built of stones of considerable size. Their form is

most frequently conical, the natural form in which loose stones would dispose themselves; but several varieties of shape occur, including, though rarely, a lengthened form like the grave they cover. One in Stirlingshire measured sixty yards in length by ten in breadth.

The Cairn was raised generally over a grave of the diminutive sort, in which the body had been buried in a bent posture; but not unfrequently over an urn. Occasionally a cairn covered numerous remains, when it may have been either a family burying-place, or the memorial of the distinguished dead of a battle.

Others again were *Chambered Cairns*. They enclosed galleries built of huge stones, branching off into chambers symmetrically arranged, and often showing marks of great constructive skill. Some of these cairns are described as having been originally sixty yards in diameter, and stones upwards of a ton in weight have been employed in the architecture of the chambers. Tradition sometimes speaks of them as places of refuge in time of war, or hiding places for freebooters and robbers, and "broken men" of later times; but from the remains found in them, there can be little doubt of their original intention as resting-places for the dead, perhaps of a family or tribe, though they may have been used afterward for very different purposes by the living.

Mounds, *Barrows*, or *Tumuli*, are not so common in Scotland as cairns. Their chief difference from cairns is in the material of which they are constructed, earth taking the place of stones, though stones are sometimes mixed with the earth in considerable quantities. They may be divided into, 1st, the Long Barrow, resembling a gigantic grave; 2nd, the Bowl Barrow, like an inverted bowl; 3rd, the Bell Barrow, where a bell takes the place of a bowl; 4th, the Conoid Barrow, like a piece of a sugar loaf; 5th, the Crowned Barrow, with one or more standing stones set upon it; 6th, the Enclosed Barrow, commonly conical, and enclosed by an earthen wall; 7th, the Encircled Barrow, commonly of large

proportions, and surrounded by standing stones; 8th, the Ship Barrow, on the model of an inverted hull. This arrangement is in a rough way according to time as well as shape. To these we ought possibly to add (9th) the Twin Barrow, where two, a larger and a smaller, are found in immediate proximity, generally enclosed by an earthen wall. It is difficult to say if the Twin Barrow should be classed as of a distinct kind in Scotland, since groups have been found there of three and even eight enclosed by the same wall. It is, however, a well recognised form in England, where barrows are more common, and have been more studied than in Scotland. In some instances barrows are arranged in chains of eight or nine, separated by regular spaces.

We can arrange the relative antiquity of the different classes of barrows with considerable certainty. The Long Barrow is undoubtedly the oldest. It is now rare, and was probably never plentiful. No metallic implements are ever found here. Pottery is rare; regular urns and burnt bones are of questionable occurrence. By its very form it suggests an earlier origin than the circular, being nothing more than an enlargement of the ordinary mound caused by the displaced earth of the grave. Some Long Barrows are of immense size; probably they were proportioned to the position and reputation of those they commemorated.

The change to the Circular, Bowl, Bell, and Conoid Barrows, was made perhaps before the introduction of metals, but they continued to be raised down into historical times, as allusions are made to them in Norse Sagas. Some care was required to give these tumuli the proper shape, as none of them is the form loose earth assumes when thrown into a heap.

The Enclosed, Encircled, and Ship Barrows seem still later in their introduction, and probably owe more or less to imitation of Scandinavian forms, if not in some instances actually raised by the Norse Vikings and their Danish congeners, on the field of their battles with the Scottish natives.

To these we may add (10th) Chambered Barrows. A very common local account of barrows is that they are houses buried for the plague. Some barrows contain chambers similar to those of the Chambered Cairns, and if opened would give countenance to the idea of a buried house. Some of the Chambered Barrows are of great extent, and each possesses a character of its own, although the features in common show that they had a common origin. The most eminent is Maeshowe, in Orkney, one chamber of which measures fifteen feet square, by thirteen high. In it were found some Runic inscriptions, of later date than its erection, showing it had been used for shelter to the living, though in all probability erected as a memorial of the dead.

Below a cairn there was commonly a grave dug; this was rarely done when a tumulus was to be raised. The cist was formed, or the urn placed, on the natural surface of the soil, and upon this the earth was heaped up and moulded to the desired form. It is not uncommon to find in the substance of the mound the bones of domestic animals, the remains, it may be, of the funeral feast. In the later tumuli are found occasionally the bronze bridle bit, and other horse furniture, and sometimes teeth and bones, and even the entire skeleton of the horse. The skeleton of the dog is still more frequently found. This shows the rude conceptions the mound raisers had of a future state, and also how early these favourite companions of man were domesticated in our islands. Such variety of remains is not found in the cairns.

"*Standing Stones*" are either single or in groups. With them we may class the *circles* commonly called Druidical, and the *Cromlech*.

The stone pillar is a very natural monument, whether for marking a grave, or a historic memorial, or a private memorandum. The traditional names of such stones are sometimes significant of their purposes. "Catt" stane, means stone of battle; the Hoar or Hare stane marks a boundary; and the Auld Man, which is more frequently

applied to natural pillars, is a corruption of "Alt Maen," High Rock.*

Solitary standing stones are, or were, to be found in every parish in Scotland. Groups, that is, irregular groups, as distinct from circles and remains of circles, are more restricted to the west coast and Islands. On the east coast the most remarkable are the standing stones of Lundie, near Largo, in Fifeshire, the largest of which measures sixteen feet above ground. Three only now remain, but there had originally been four in the cluster. They are far older in all probability than the period of the Danish invasions to which tradition assigns them. An equally remarkable group of those weather-beaten slabs, less in size than those of Lundie, but more imposing in the desolate wildness of their situation, stands on the high-lying moor between Strathtay and Pitlochrie. Many groups that now seem irregular, are found on investigation to be remains of circles.

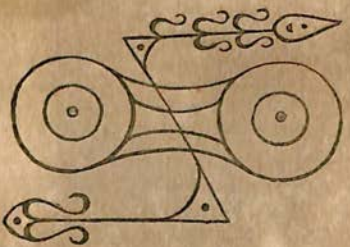
The *Sculptured Stones* seem to be the direct representatives of the solitary standing stones. In all probability, even the rudest of them belong to a state of civilisation beyond that of the primitive ages. Intermediate between these there are a set of markings, beginning with mere shallow cups up to spiral lines, but never rising to any design or figures such as distinguish the "Sculptured Stone" proper. Of these, upwards of 150 are known in Scotland, chiefly in the counties of Aberdeen, Kincardine, and Forfar. They have a decidedly national character, so that one in the Scottish style is quite discernible from those of England or Ireland. The so-called Runic knotwork is a feature common to all three countries. This is formed of interlacing lines, seemingly in imitation of wicker work. But besides this knot-work, the

* Quarterly Review, July 1867, p. 57.—"Cornish Antiquities" suggests a plausible theory that, as "men," a stone, becomes "mêdn" in modern Cornish, it may have been identified by the Saxons with their own "Maiden." This would account for such names as the "Nine Maidens" for stone circles; the "Maiden Stone" for a sculptured stone near Benachie, and the "Maiden Castles" and "Maiden Leaps," given to precipices and castles built on precipitous rocks in various parts of the country.

Scottish stones bear many figures or emblems, the meaning of which is now lost, but as they are sometimes found on the same stone, and in the same style of work with the Cross, they must have been executed in some cases after the introduction of Christianity, and cannot be incompatible with its profession. The more common of these symbols are the *Crescent*, commonly with,* occasionally without, the

Crescent and Sceptre.

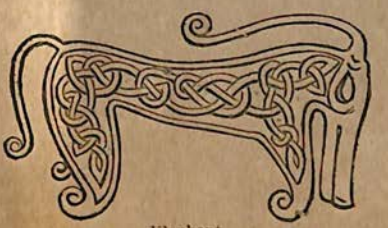
Spectacle Ornament.



Spectacle Ornament and Sceptre.

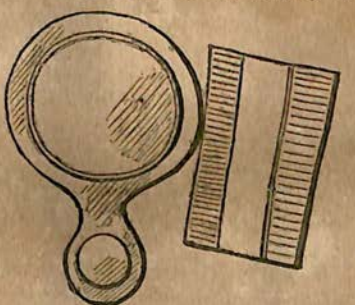
Sceptre, or rod broken in the middle, with the ends lying across the Crescent. *The Spectacle Ornament*, two circles joined by lines curved inwards, commonly with the *Sceptre*, which in this connection is bent into a Z form, and passes between the circles. The circles are in some cases filled with a sort of tracery, which occurs later as a distinctive feature of Scottish architecture. After the Crescent and Spectacles, the most common figure is the *Elephant*. The execution is

* This occurs on Statue on Easter Island.



Elephant.

rude, but there can be no doubt that the Elephant is intended. Of the antiquity of the sculptures there can be no question, but how did the sculptors get the figure of the Elephant? Did they copy from some representation, or had they seen the live animal? The *Mirror*, the *Comb*, the *Fish*, the



Mirror and Comb.

Serpent, are amongst the chief of the many symbols sculptured, but the meaning of all is alike obscure.

There are one or two rough unhewn standing stones bearing inscriptions. One at Newton, Culsalmond, has never been satisfactorily explained. One near Edinburgh has an inscription in Latin, which fixes its date later than the Roman invasion. At Meigle there are several stones with hunting scenes, evidently from life, but in the same style both of

ornament and figures, as some of the sculptured stones with unexplained symbols. At St Andrews, a stone coffin bears a mixture of hunting scenes and fancy figures. Symbols similar to those on sculptured stones have been found in some caves in Fifeshire, and on the silver plates found at Norrie's Law, in the same district of that county.

On the whole, it may be said that these Sculptured Stones belong to Archæology, not so much from their date, as because their meaning is lost. The "cup" markings and spiral lines may belong to the period of Archæology proper, but it is hard to conceive that the elephant was then known; and the stones in which the cross forms the predominant feature of the design are evidently the work of a later date.

Between the Standing Stone and the Circle we have the *Cromlech*, *Dolmen*, or *Kist-vaen*, often though improperly called *the Druid's Altar*. The first idea of this is a rude block lying at, or close to, the base of a Standing Stone. Next, the horizontal table is raised on rude supports, at various heights, but always "*windfreed*," *i.e.*, it is elevated above the surface of the ground, and the space below is not fully enclosed so that the wind can pass below the table. The Standing Stone is often wanting, especially in the better specimens. In the most perfect form or kist-vaen the table is considerably elevated, and the space below is fully enclosed, on all, or at least on three sides; slabs taking the place of pillars as supports.

In all its varieties the Cromlech or Dolmen seems to be a sepulchral monument. In most cases remains have been found under it, and its general massiveness forbids the idea that they were placed there *after* it was raised.

We come now to the best known of the great Stone Monuments, the *Stone Circle*, or *Druid's Temple*. They have been called Druids' Temples since the time of Aubrey and Stukely, and in the absence of any other popular theory of their origin and use; but it is a pure assumption, which may be right, or may be wrong, to connect them with the Druids, or to call them temples at all.

The general appearance of the Stone Circle is sufficiently

known. A circle of from five to fifty yards or upwards in diameter is marked out by stones set on end, always sufficient in number to mark the circle, but never so close as to present the least approach to a wall. The stones are sometimes not more than twenty inches, sometimes more than eight feet in height. From three to four feet may be taken as an average. They are sometimes mere boulders picked up close at hand; but commonly they have been selected with great care, and often brought from a considerable distance. Generally there is only one, sometimes there are two, and occasionally three, concentric circles. They are occasionally found in groups, and in some cases there are other circles, and ranges of pillars forming part of the same plan as the chief circle.

A cist or an urn has been found within the circle in the majority of cases when a careful search has been made; in others traces of previous search have been found, making it impossible to say whether there had originally been any such deposit or not. In the majority of cases also there is a Dolmen or Cromlech within the circumference of the circle. When the horizontal stone is without support, it is as a rule at the base of one of the standing stones; when on pillars, it seems intended rather to be opposite the space between two of them. The Kist-vaen is rarely or ever connected with a circle. Where a Dolmen is present, the cist is found under it; when not present, no definite spot in the area of the circle can be determined, before search, as likely to contain remains.

The common theory assumes that these circles were temples, and calls the horizontal stone the altar. Now the presence of sepulchral remains does not prove that these circles were merely monumental; nor have such remains been found in all cases. And even if they were sepulchral monuments, they may have been temples also, especially as we are told circles of a similar kind are used for purposes of worship by some of the East Indian tribes. In some circles, as at Stennis, there is amongst the standing stones one with a perforation, a "Bore" stone. The traditional use of this was for swearing; the form being for the taker of the oath to pass his hand

through the hole, and so swear.* Skilled observers of circles say that differences may be observed in their construction and position, as if to adapt them for different purposes. In some cases it is likely all these purposes would be united; in others separated.

More facts must be collected about circles, and more diggings made in and around them before we can safely say more than that they were commonly—and, perhaps, primarily—places of sepulture, and probably places of common resort for worship, and political and judicial meetings.

* A promise made with hands joined through the Bore stone at Stennis was considered tantamount to marriage. An oath on a ring was used amongst the Scandinavians. Perhaps to some such connection we owe the Marriage Ring, the use of which may be traced up to heathen times.

MOVEABLES.

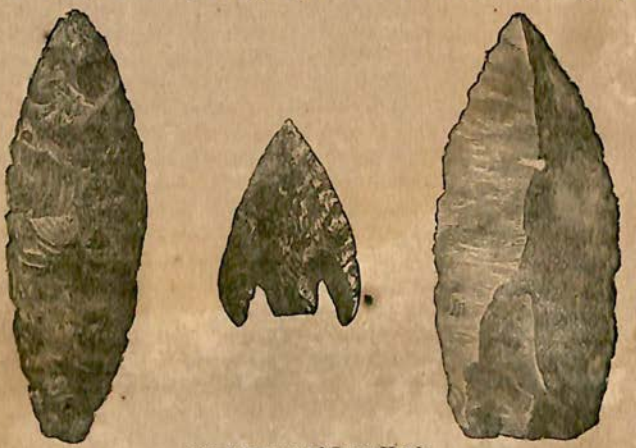
From the "Fixtures" we pass now to the "Moveables," the smaller fragments of antiquity that have come down to us. If the larger monuments are imposing from their immense size and profuse expenditure of labour, these smaller objects are more interesting from their beauty of form, and ingenuity of workmanship, and still further from their more direct and immediate connection with the habits and customs of their users. As already indicated they may be divided into *Armour*, *Implements*, and *Ornaments*.

I. Armour.

A.—STONE ARMOUR.

The oldest armour that remains is that of the Stone period; and the most common specimen of that or any other period is the *Flint Arrow Head* or *Point*, formerly called the *Elf Dart*, or *Fairy Arrow*. This name was connected with the belief that the fairies used them for shooting men and cattle. To cure this, the patient had to drink water in which a flint arrow point had been dipped with certain ceremonies. Sewn into the dress, or otherwise borne about the person, it was a preventative against fairy arts and witchcraft. To the ordinary form of flint arrow may be traced the triangular or heart-shaped brooch which was once so common. This also was supposed to possess certain occult qualities, and was very often put upon infants' dresses as a protection from all supernatural danger.

The Flint Arrow Heads are found of considerable variety of form. They are, as their name implies, almost invariably of flint, though specimens are met with of agate,



Flint Arrow and Spear Heads.

cornelian, and other native pebbles. The most common form is that of an elongated triangle, with a stem in the middle of the shortest side, and a barb on each side of the stem. The second variety is smaller, and generally very neatly finished, of the same general shape, with two barbs, but no stem. This kind looks very often as if it had been formed from a stemmed specimen after one corner and barb had been broken off. (3.) Another form is that of the Lozenge, more or less accurate in shape. (4.) A very neatly shaped class resembles the myrtle leaf more than anything else. There is a great variety in the execution and in the size of Arrow points. An inch long is a very fair size for the stemmed variety, but some have been found as much as three inches long, and of very careful execution, seemingly more for ornament than use.

A set of larger flints used to be called *Druid's Sacrificial Knives*, but are now looked upon as *Spear Heads*. They are less carefully finished than the Arrow Heads, and of a much stronger and ruder design. The shape is generally that of an oblong lozenge, or broadened willow leaf. One fifteen inches long was found near Stirling; from four to six is a more common size.

In many parts of Scotland, flint is not found in its rough state, but these arrow and spear heads are found in all quarters. This opens a curious question as to manufacture and commerce in those early days. What may be called Manufactories of Armour have been found, where lay finished specimens, flakes in different stages of progress, and blocks of flint from which the flakes had been split.* It is also worthy of remark that, however carefully finished, all the flint instruments are, as a rule, brought to shape by chipping, though occasionally finished off by rubbing or grinding. Implements of ordinary stone seem to have been all rubbed or ground, and finished off with a smooth surface, though that is now often corroded by exposure.

Stone Celt.

Stone Axes or *Celts*,† though not uncommon, are by no means so plentiful as arrow points. They are of a wedge

* Many flint and other antiquities were fabricated in England by a notorious impostor, known as Flint Jack. There, for a time, his wares found a ready sale; he tried to dispose of them in Scotland also, but happily without success.

† The name of Celt must not be taken as implying any special connection with the Celtic race. It is from celtis, a chisel.

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shape, three to four inches broad at the mouth or edge end, sometimes pointed, sometimes rounded, sometimes square at the other end, towards which they gradually taper. From six to fifteen inches may be taken as the ordinary limits of their length; eight to ten inches is an average size. They are made of all sorts of stones. Flint is very unusual, few native Scottish flints being large enough for the purpose. They are never bored for a handle, and are of varying degrees of finish, from the most careful polish to a style scarcely distinguishable from a water-run stone, though this, in many cases, may be owing to the action of the elements since the weapon has been in use, rather than to any carelessness on the part of the workman.

That these axes were used in war, there can be no doubt. At Nether Banchory, near Aberdeen, a skull was found in a cist, with a hole in it such as a stone axe would make. In Kirkcudbrightshire, a skeleton was found with one arm almost severed at the shoulder, with a fragment of a stone axe still sticking in the bone. It is very probable that the axes were used also, in the scarcity of implements, for more peaceful purposes. In one or two instances, they have been found sticking in blocks of stone, as if intended to act as wedges to split the block into pillars.

The stone is all that has come down to us, but how was the arrow fixed to its shaft, and the axe to its handle? Common sense, guided by faint remains, and the example of the Indians of America and the South Sea Islands, who use precisely similar weapons, teaches us that the common stemmed and barbed arrow point was fastened by the middle projection. In specimens from the South Sea Islands, this is further strengthened by a ligature passing round the flint below the barbs, and then up to the shaft. The arrow heads of other shapes were, no doubt, fixed in a similar manner. Traces remain as if some of the stone axes had been fixed in the hollow of a deer's horn, which in turn had a hole pierced for insertion of a handle. The Indians of America sometimes fix the stone into a handle formed ingeniously from the meeting

of two branches, strengthened by bandages. Like expedients were, no doubt, used in our own country.

Other instruments of warfare occasionally, but more rarely found, are the *Flail-stone* and the *Ball*. The flail-stone is shaped like the "*Souple*," or striking arm of a flail, and is eight or nine inches long, with an eye in the upper end; hence it is sometimes called a *Stone Needle*. The *Stone Balls*

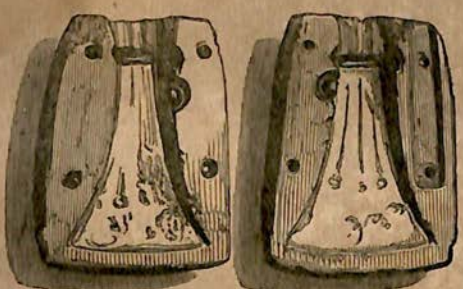
Stone Ball, divided into five projecting discs, covered with incised ornaments, found in the parish of Towie, Aberdeenshire.

are from two to three inches in diameter, often ornamented with concentric circles, carefully cut. It is difficult to say absolutely how, or for what purpose, these were used. It is by analogy from other rude tribes that we class them with warlike weapons, and suppose them to have been used at the end of thongs of hide. Perhaps it would be better to say they are implements, the use of which we do not know.

Stone Hammers are not uncommon; but these will come more appropriately under the head of Implements.

B.—BRONZE ARMOUR.

The Introduction of *Bronze* was accompanied, as we should expect, by a great change in the style of weapons. Curiously enough, no bronze arrow points have been found; and we come now for the first time on the most renowned of all weapons, the *Sword*. We come also on the first traces of defensive armour, the *Shield*. The Bronze weapons are all cast and moulded, not formed by the hammer and anvil; the only exception is that some of the swords have been hammered at the edges till they became very hard and brittle, and capable of receiving a keener edge than unhammered bronze will bear. Perhaps the brittleness of hammered bronze is the cause why this process was not more extensively used.



Stone Mould for casting Celts, from Rosskeen, Ross-shire.

From the forms and style of workmanship, we can make a comparative arrangement of bronze articles into earlier and later. First come very rude specimens, evidently cast in sand; then those cast in a stone mould, open at the surface; next those cast in stone moulds, of two parts, fitting to each other in an accurate manner; and lastly, bronze moulds formed on the same principle. Specimens of these moulds have been found, both in stone and bronze; and remains of

what we may call primitive foundries have been met with in several places.

With skill in casting, elegance in ornament also advanced. The earliest Bronze specimens are rude, and evidently mere imitations of stone implements, but gradually they improve, till they often exhibit much beauty of shape and graceful ornamentation.

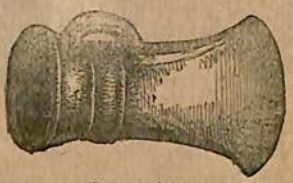
The Articles of Armour found in Bronze may be given as the *Palstave*, or *Palstab*, the *Axe*, the *Spear-head*, the *Sword*, and latterly the *Shield*.

The *Palstab*, so named in Germany, is a wedge or chisel

Palstab.

more or less axe-shaped, having at the upper end a broad groove on each side, ending in a stop-ridge. This groove is so wide that the head may be described otherwise as being a continuation of the body with a flange at each side, terminating at the stop ridge, well adapted to secure a hold on the handle. Sometimes there is a hole for a rivet to fix it on the handle, sometimes a loop at the side, as if for tying it on; generally it has neither rivet-hole nor loop.

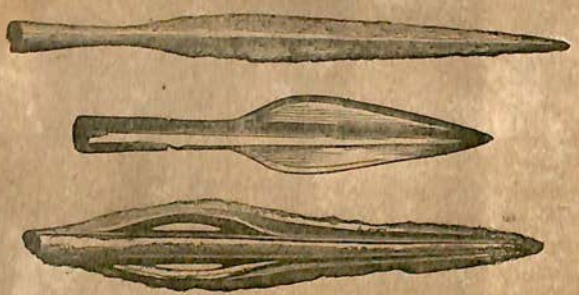
The *Bronze Axe* or *Celt* is more common than the palstave, from which it seems to have been developed by bending the flanges of one side inwards till they formed a socket, for the Bronze Axe was fitted on to the handle by a socket lengthwise, never by an eye across the blade. It has also as a rule an eye or loop at the side for tying it on to the handle. Many Bronze Axes are elegantly shaped and ornamented, generally with incised lines, some done in the casting, others



Bronze Axe.

afterwards by punching. It has been suggested that th[illegible] lines were not purely for ornament, but for containing poiso[illegible] as is not uncommon among savages; but it must be remem[illegible] bered that mineral poisons were then unknown, and it m[illegible] be questioned whether we have any native vegetable poison strong enough to produce any deadly effect when used on a weapon; still it might aggravate the wound.

The Spear Heads are the finest specimens we have of



Spear Heads.

Bronze moulding. Besides general elegance of form, they show great skill in casting. Metal is saved where strength is not required, and ribs or ridges are raised where stress would naturally fall. Ornamental perforations add to the beauty and lessen the weight of the weapon. The general type of outline is that of a slightly elongated birch leaf, or

ace of spades, the stem forming the socket for the wooden handle. In a general way it may be regarded as a development of the axe, more ornamental, and better suited for purposes of war.

The *Bronze Swords*, though not exhibiting such skill in

manipulating the metal as the spear heads, are yet more graceful in form. They are short, from two to two and a-half feet long, pointed, narrow at the hilt, swelling out in the middle, not unlike the leaf of some of the finer willows. They seem intended for thrusting, and are altogether unlike the unwieldy, blunt-pointed swords, with which Cæsar found the Britons armed. The cross section shows well the skill of the workmen who made them. There is a thick ridge, or mid rib, in the centre for strength, then a hollow on each side for lightness, and near the edge there is a ridge again for strength. The edge, as has been said, is hardened by hammering, sometimes till the metal shows signs of cracking. No remains of handles have been found, but the blade extends in a plate to which the handle must have been fixed in two halves, one on each side. This plate looks as if the handle had been small—*i.e.*, both short and thin. It shows holes for rivets, and, in some cases, the bronze rivets themselves have been found. No guard or cross bar of any kind has ever been found, but may have formed part of the handle.

These leaf-shaped swords used to be called Roman, but are now recognised as of undoubtedly native origin.

Remains of *Bronze Daggers* have been found, or, what would serve, and probably did serve, for dagger and knife.

The Bronze *Shield* is circular, from two to two and a-half

feet diameter. In the centre is a projecting boss* or umbo, crossed in the inside by a bar, by which the shield was held in the hand. This agrees with the traditional form of the Highland shield, but is very different from that of the Romans, which was oblong, and borne, not by a handle in the hand, but on the arm, by two straps. Doubtless, shields of wood and hides were used before the introduction of bronze, and even afterwards, with the addition of strengthening plates of metal.

Other bronze articles have been found which look very much as if intended to be destructive to life; but as their use is uncertain, it may be as well to put a charitable construction on them, and pass them on to next division.

C.—IRON ARMOUR.

Articles of Iron Armour of the primitive period are not so common as those of bronze, perhaps not so much from original scarcity as the corroding effect of time and rust. Space will not permit more than the remark that at first they were, in all probability, very much like those of bronze, and gradually, or perhaps speedily, passed into the recognised forms of the historic period. At the time of the Roman invasion, the natives had heavy, long, pointless iron swords, useful for cutting and striking, but not for thrusting. They had also wheeled cars, or war chariots, and used the shield. After the Roman invasion, imitations of Roman armoury came into use, and the Britons approximated in the arts and appliances of war, to the great conquerors and civilizers of the Celtic tribes.

II.—Implements.

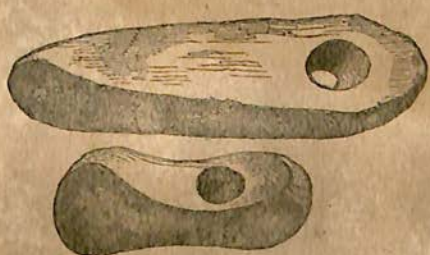
A.—STONE IMPLEMENTS.

Specimens of Domestic and Miscellaneous Implements are not so plentiful as of armour. Among rude savages, the

* Compare with Boss the common Aberdeenshire name for a wooden bowl, *Bossie;* also, "Boss," adjective for hollow.

means of warfare are necessary to existence; those of domestic comfort are of secondary importance. Hence the greater attention paid to the manufacture and multiplication of arms, over articles of a more peaceful character. Besides, where strength was not necessary, they would employ materials of a more manageable, and, in most cases, that means a more perishable, character. Wood and bone, animal and vegetable fibre, we have reason to believe, were used; but the natural process of decay forbids us to expect more than the very slightest traces of their remains, to testify the general fact of their use.

Stone Hammers are the most common of the earlier



Stone Hammers.

articles that come under this head. They are of all shapes, from the cylinder to the hatchet; and what is singular, especially when we compare them with the stone axes, all these hammers have a hole or eye for receiving the handle. This eye was bored by a stone borer revolving after the manner of a drill. Some of these borers have been found polished by use, of a size and shape which show that they must have been worked by the hand, without any mechanical means, such as the bow-drill, or any substitute for it. As seen from broken specimens, the hole was bored partly from

one side, partly from the other, until the space between could be cleared by punching. The holes meet very exactly, but the middle of the eye is the narrowest part.

Hammers are made in all varieties of stone. Ornament is almost entirely unknown upon them. Wedge-shaped hammers, with the eye at one end, are known as hatchets, and were probably used as such.

Bronze Hammers are unknown; those of iron seem to have been used early after the introduction of that metal, and until then it is probable stone would be used, as bronze seems to have been too scarce and too valuable to be employed in such masses as a heavy hammer.

Knives were formed of flint, roughly semicircular in shape, with the edge on the outside, like a saddler's paring knife. They are not common in Scotland, and when found are popularly called Druids' sacrificial knives; the same name is given also to large spear heads; but in both cases incorrectly.

Stone vessels resembling jars, generally of very soft stone,

Stone Vessels.

have been met with, but are extremely rare. Sometimes the bottom is a distinct piece from the body. More common, but evidently of later date is the *Stone Bowl*, generally five

or six inches across, with a handle, sometimes perforated, at one side. Sometimes the handle is a mere projection, or "lug"; sometimes it is longer, and the whole rudely ornamented. The latter are often called Roman *patarœ*, but are undoubtedly of native origin.

Far more common are the appliances for grinding grain: it may be corn or barley, or perhaps only the seeds of some of the larger grasses. The rudest form is a shallow bason, or hollowed stone, accompanied by another stone, roundish, and fitted on one side for the hand. With this the grain was bruised in the bason.

The Querne was a decided advance on this. It is simply a small mill, in which the upper stone is driven by the hand. The *Pot Querne* is more common than any other. In it the under stone was formed with a ledge all round, within which the upper stone worked. In all cases there was a hopper in the upper stone to receive the grain. The upper stone is always very light, and must have required pressure as well as motion to grind the grain, unless it had been very soft, like grass seeds. Quernes are very often found in Yirde Houses, and the upper stone is more common than the under.

Along with remains of the Stone period some articles of bone have been discovered, but in a state of extreme decay, which prevented their preservation. This would account for the scarcity of domestic implements of this period. No doubt most of the substitutes for knives, pins, fish-hooks, &c., were made of bones, teeth, wood, and other perishable material, as amongst savages at the present day. These have since decayed so completely as in most cases to leave not even a trace, and at best little more than a mere trace.

B.—BRONZE IMPLEMENTS.

Miscellaneous remains of the Bronze period are more plentiful in proportion to specimens of armour than in the Stone age. This seems to imply the introduction, to some

extent, of a new civilization. This is more marked with respect to personal ornament.

Most prominent amongst the Bronze remains are the *Caldrons*, so often spoken of as Roman camp-kettles, to which

Bronze Caldron and Flagon.

they have no resemblance. They are generally formed of sheets of Bronze, bent or beaten into shape, and joined by rivets. Occasionally vessels of Bronze were *cast*; some of them very much resembling the old-fashioned Dutch or Carron pots with two ears and three legs. Sometimes these cast vessels are of considerable elegance and excellence of workmanship, and not always of the most simple design.

Bronze Basons are generally formed of a sheet hammered into form. They are not so common as kettles or caldrons. A vessel that would bear fire was the first requisite, one for any other purpose was a superfluity, and marked an advanced civilization.

Bronze Knives are not very plentiful, and need no further description than that they are commonly cast, with a ridge at the back and a spike for going into the handle, and

are generally crooked in shape, somewhat like the Malay creases.

There are other Bronze Implements, of which we can only guess the uses. One class, resembling small reaping hooks, are better known in England, where they are spoken of as Druid's knives for cutting the mistletoe. Others, of which only one or two specimens have been found, seem fitted for scraping, &c., &c.

Wooden and Bone Combs have been found in graves along

Bone Comb.

with bronze articles. They are rudely formed, apparently of spikes fixed between two plates, and must have been very ineffective among the tangled locks of those who used them. Of course they are in a state of extreme decay.

C.—IRON IMPLEMENTS.

Of Iron Implements, as of Iron Armour, we can only say that they shade off into those belonging to the Historical Period. Rude as the earlier specimens appear, there is no doubt they were great improvements in their day and place.

Iron Hammers are among the earliest remains of this period. The oldest "find" consisted of two hammers, a gouge, and knife, and a lamp which, curiously enough, was shaped exactly like the lower shell of the old "cruizie," formerly in all but universal use throughout this country. Along with these were other articles, which fixed their date about the time of the Roman rule in Britain.

The common report given when articles of iron are found in graves or mounds is that there were some rusty iron hoops, so far decayed that they broke to fragments when

handled. This decay has caused most iron remains not pointed out by their position in connection with other remains to pass unnoticed, and has deprived us of much information about the habits and customs introduced with this most useful of metals. Bronze, though in actual life it disappeared before Iron, has come down to us comparatively uninjured, for it is comparatively free from rust. Hammers and kettles, and swords decayed to the appearance of a rusty hoop, are nearly all we have to represent the earlier Iron implements.

III. Ornaments.

We come now to the fertile field of personal ornament. In the present age, when ornaments are thrown off by the gross by the aid of machinery, and the fashions change every day, this study would be endless. But in primitive times the case was different; then each separate piece was elaborated with patience and care, and in all likelihood the designer was also the workman. Accordingly we find that each ornament of any importance has a style and character of its own, and would require to be described individually. We may believe that they were handed down through generations as heirlooms, or were buried with their owners as suitable evidence of their rank in the world to which they had gone.

A.—STONE ORNAMENTS.

Of course, we cannot expect that many ornaments of the stone period should come down to us. Most probably, they were formed from bones, teeth, and sea shells. In a stone cist, about two dozen oyster shells were found, each perforated with a hole large enough to admit the finger. Most likely they had been strung on some vegetable cord, or thong of skin, to form a necklace. Similar instances of perforated shells have been found in other countries.

A few ornaments of bone and horn have been found. One set of bone ornaments in the Scottish Museum includes a piece of ivory, perforated with a square opening, and another

piece with a square nut or button fitting into it. Here the remarkable thing is not the beauty or ingenuity of the workmanship so much as the occurrence of ivory at that early period.

Small perforated stones, approaching the hemispherical shape, are occasionally found, always a number together. These were at first looked upon as beads, but are probably the table-men of a game resembling draughts. Traces of chess-playing are found very early, and it is probable this game prepared the way for it. Some of these perforated stones are very neatly ornamented, and may have served for personal adornment as well as amusement. Circular pieces of slate pierced in the centre may have served for like purposes. Also stones and ornaments of jet or shale, pierced with holes, as if intended to be fixed to the dress, are found.*

Necklaces of Jet may have belonged either to the stone or to the bronze period. Several have been found, and the perforations are so neat and direct that we can scarcely believe that they were bored without the use of metal. In one instance, a necklace was found in an urn formed of alternate beads of jet and amber. In all cases, the string has decayed, so that we cannot say whether it was of animal or vegetable material.

Large *Rings of Jet* are found, but more commonly in England than in Scotland. Of their date, there can be no doubt, nor of their having been turned, in some substitute for the turning-lathe, just as the pottery of that age must have been "thrown" on some substitute for the potter's wheel.

The most curious thing in connection with these rings is that the discs, cut from the inside of the ring, used to be sought after under the name of *Kimmeridge Coal Money*. As there were regular manufactories of these rings, the refuse heaps furnished an abundant supply. It was not till the rings themselves became more generally known, by

* Stone Whorls for use with the distaff (rock and whorl) are not uncommon. They are flat, and larger than these perforated stones.

discoveries in urns and cists, that the true character of the "Money" was found out. Thus it is that Archæology makes progress; the new discoveries correcting the old theories, and explaining the mysteries of the past.

Jet and Shale were worked also into *clasps* and *brooches*, and other ornaments of the then fashionable style of dress, now of unknown application.

Glass Beads were not uncommon, though we are accustomed to look on the manufacture of glass as a modern invention. The beads are generally large and heavy, and of a peculiar vitreous paste, very deficient in transparency. They are commonly coloured, and sometimes characterised by elegance of style, and ingenuity in disposition of the colours. Thus one is of red glass, spotted with white; another dark-brown, streaked with yellow; others pale green, with spiral lines of blue. Some are plain, others ribbed, and some even have curious patterns, worked with colours, on their surface. In one case, the bead had been broken, and ingeniously repaired with a hoop of bronze, a significant indication of the value attached to it.

They have been called *Adder Beads*, *Serpent Stones*, and *Druidical Beads*. The traditional account of their production is that twelve adders put their heads together, and hissed till the foam produced became consolidated into a bead, which, of course, was endued with high magical qualities, and especially was a powerful charm in case of disease. Something of the same occult qualities was ascribed to natural flint nodules, with a hole completely through them, which was supposed to be made by the bite of a serpent.

B.—GOLD ORNAMENTS.

Gold was the metal most commonly used for ornament. This was natural enough, for it is almost the only metal found on the surface of the ground in a state fit for immediate use. Some gold ornaments belong to the Stone period, as shown by the style of workmanship, and the articles found along

with them; others belong as decidedly to the Bronze and Iron ages.

Armillæ or *Armlets*, that is, rings for encircling the arms, as bracelets do the wrists, are amongst the most common

Gold Armlet.

ornaments in gold. Of these a usual form is a narrow band, twisted spirally, and bent to the shape of the arm, with the ends turned back to form hooks or clasps. This is simple enough; but its beautiful regularity and the reflection of the light from the hammer marks, and its general elegance of form, make the spiral golden armlet an ornament in many respects not inferior to the work of the goldsmith of the present day.

Another form is a twisted cord or cords of gold, encircling the arm three or four times, and clasped by the hooked ends.

Connected with these Bar Armlets are a set of ornaments called *Pennanular*. They do not form a complete circle, but

Pennanular Ornament.

are more or less open; sometimes they do not form more than a semicircle. Their chief peculiarity is that the ends are spread out into plates, or cups more or less decided, but in all cases projecting too far to admit of their being worn as armlets. In some cases the cups seem to have been set with jewels. It has been supposed that they formed some sort of clasp or fastening, or perhaps a badge of office, perhaps only a popular style of ornament, which does not necessarily imply that they served any use whatever.

Lunettes of gold, that is, plates of a half-moon shape, occur, but are more common in Ireland than in Scotland. They formed, probably, an ornament for the head. This, too, is supposed to be the use of circles of a sufficient size, with flat ends, overlapping each other considerably, so as to permit of distention without opening.

Lunette.

Torques or *Torcs* of gold have been found. These are collars or rings for the neck. One very handsome gold torque seems to have been formed in imitation of a knotted rope. One peculiar type in Bronze has got the name of *Beaded Torque*. It consists of a solid semicircle for the back of the neck, with a short string of highly ornamented large bronze beads for the front. Other forms of torque occur in gold as well as bronze, but not with such similarity of design as to admit of classification. Each specimen has a character of its own.

Bronze *Armlets*, *Fibulæ*, or clasps, and other articles of ornament are not so common as of gold; nor in general, with the exception of the Beaded Torque, so highly ornamented.

Belonging to a later period is a Bronze Armlet in imitation of a serpent, encircling the arm in a threefold coil; and other rings and ornaments with serpent like patterns, scales, &c. Several well ornamented Bronze rings for the head or hair belong to the later or iron period.

The most common Bronze articles, *Buckle-shaped Fibulæ* and *pins*, belong commonly to the Roman period, as also *Bronze Finger Rings*; though both rings and buckles are often ornamented in the native style.

The absence of silver is striking, as compared with the frequent occurrence of gold. The richest of all finds in a

Barrow was of silver, but it belonged to a very late date, perhaps to the time of the Danes. This was at Norrie's Law, near Largo, where an unknown quantity of silver was found and sold for bullion. The only pieces preserved are some that the plunderers had dropped. These are two pins or bodkins and a few plates of silver, chiefly curious as bearing figures similar to those on the Sculptured Stones.

To the end of the Bronze, or beginning of the Iron, period may be referred the earliest appearance of coins, or what seems to be coins, small rude pellets of gold, marked on one side with rude cross lines in relief. *Silver Chains* and

Silver Chain.

Rings, with the ends of the bars meeting, but not welded, so that the rings can easily be opened, like the modern jump ring, are supposed to be another form of money, similar to the ring money of Africa. Similar rings are found in gold and bronze.

The *Clothing* of the Primitive Scot was, in all probability, chiefly of skins, prepared with more or less skill. There are, however, early indications of another style, one, too, for which Scotland was long famed—clothing prepared by knitting. Among the rarer contents of the tumuli are perforated Bronze Needles, bone pins, and netting implements, and even fragments of knitted and wrought tissues, which crumble into dust when exposed to the air. A unique specimen, of considerable strength, now in the Scottish Museum, was found in a cist in Yorkshire. It is apparently a sleeve, and is of rude and coarse workmanship, knitted in an irregular pattern. On the whole, the arrange-

ment of the stitches is not unlike the style of ornamentation on some of the Urns found in Barrows.

There are two classes of remains which do not come well under any of the heads treated of: these are Canoes and Shell Heaps.

CANOES.

When we think of the rude mechanical appliances of these early ages, and the industry and ingenuity required in forming a Canoe, we cannot but be surprised at the number that have come down to us.

The primitive Canoe was constructed out of a single tree like that of the American Indians, and, we may suppose, by similar means. A suitable tree being found in a convenient situation, embers are laid round the root; after a time these are removed, and the charred wood scraped off by stone axes. This charring and scraping process is repeated till the tree falls. The branches are removed in like manner, for a stone axe is ineffective against a moderately sized branch. The same process serves for excavation, employed, of course, carefully and cautiously, for the neglect of a burning coal might cause a leak which all the skill of the workmen could not remedy, and which would render all their previous labour of no avail.

Canoes have been found on many rivers and burns, silted up to a considerable depth, and under cultivated land. Several have been found in lakes near Crannoges. One was found in the Carse of Falkirk five fathoms below the surface; another found in the same Carse measured thirty-six feet long by four feet wide. The operations on the Clyde at Glasgow have brought several to light. One in particular had been fitted with an outrigger, and had the stem closed by a board fitting into a groove neatly cut in the body of the Canoe. Another presented the still more puzzling phenomenon of a hole plugged, not with any native wood, but a piece of cork, embedded in very tenacious clay.

Canoes, when found, are generally too much decayed to

be preserved in any form. Their antiquity is shown by articles found alongside, and by the distance from the present water-bed, and depth under the surface of the ground.

Later than the Canoe came the *Curragh*, intermediate between it and our present style of boat. The Curragh was formed by stretching a hide over a framework of wicker, or light twigs, which formed the ribs of the boat.

One example has been found of what may be called a primitive ship. At Stranraer, in Galloway, in digging a water-gate for a mill, a vessel was discovered, pretty large, and built after the manner now called "Clincker built." The only key to its age was the bronze pins with which it was nailed, and the depth at which it was found. It lay considerably above high water mark, and partly under a cottage garden. It must have been very old; still considerable caution is required before it can be reckoned as certainly belonging to the Primitive Period. Unfortunately, no accurate observations were made at the time of discovery; and, as is usual with such things, it was soon broken up and destroyed.

SHELL HEAPS.

Shell Mounds, or Refuse Heaps, are found only at the sea side. They are more common in Denmark than in Scotland, and are known there by the expressive name of Kokkjen Mödings.

They are composed, for the most part, of the remains of edible shell-fish—mussels, cockles, limpets, and buckies of all sorts. Mixed with these are bones of deer, sheep, and one or two extinct animals, all split lengthwise for the sake of the marrow. Few signs of cooking are found, and the idea given is that of people in a very low state of civilization, moving, in times of scarcity or severe weather, to the sea-side to support life on the miserable sustenance of shell-fish. Occasionally, but rarely, articles of domestic use, as bone pins, round slate plates, &c., have been found in these heaps.

In one of the Scottish heaps, human bones have been found, and from this some have supposed that cannibalism had been practised at least in that particular instance.

SPECULATIONS.

In dealing with these Archæological Remains, the question very naturally arises as to the mode and means of their construction. The Cairn and the Mound are the results of labour, and nothing more; but how were the immense blocks of the Standing Stones, and Cromlechs, and the like, moved, often from a distance, and then raised into position? In the present age of powerful and complicated machinery, we do not perhaps fully realise the effects of the simple mechanical powers when worked with patience and an adequate expenditure of labour. Our machines save time rather than increase force; and when the Megalithic Monuments were erected, time was of little value. With an inclined plane of earth, and wooden levers, and sufficient supply of men, and unlimited time, the aggregate result is out of all apparent proportion to individual effort. Union and perseverance and unlimited time are the secret of the immense labours of primitive man. A similar explanation may be given of the finer works of early ages. These are often so elegant in form, and so excellent in workmanship, that we can scarcely believe them to be the work of a rude people, without culture, and without anything that we would dignify with the name of tools. Commonly their beauty lies in the simplicity and freedom of design; and their execution is due to the immediate application of the workman's hand, a more delicate and pliable instrument than man has yet invented. The Hindoo artizan, sitting by the wayside, with a few rude tools not superior to those of an ordinary tinker, executes work more

delicate than that of the European goldsmith, with "all means and appliances to boot," and at a cheaper rate, for the construction is regulated by the sensitive touch of the hand, and his valueless time is freely lavished on his work.

The rudeness of the age, then, is very much the cause of the profuse expenditure of pains on its works. When the fruit of labour does not extend beyond what a man can consume on the spot or carry about with him, time can scarcely be said to have any value. The manufacture of arms and the elaboration of personal ornaments were all that a man could do for himself; the raising of monuments or places of defence was his only duty to the public; the quest for food or amusement was his only other occupation of life. This state may have a certain sort of impressiveness when seen at a distance, and through a haze of romance; but its actual experience must have been misery, or would have been to those who knew of anything better.

The remaining speculative questions connected with Archæology may be brought under three heads:—Who were the inhabitants of our land at that period? When did they live? and what was their religion and polity?

Who were the earliest inhabitants of our land is a question that scarcely admits of a definite answer, and therefore presents all the more attractive a field for speculation. The chief point of interest is whether they were our *ancestors* as well as our *predecessors*? All the experience of history is that certain races have died out before some others. In America, in Australia, in New Zealand, the Aborigines not only yield, but actually disappear before European progress. The vices and diseases of civilization may hasten, or the protection of the weak which Christianity inculcates on its professors, may retard, this result, but it seems sooner or later to be inevitable. The Fins and Basques seem to be the lingering witnesses that a like process was once enacted in Europe. Did this extinction of a race or races take place in our own land? It looks like it.

The stone armour and implements, and the type of skull

found with them, seem to connect the people of that period with some of those devoted races. Again, the difference between the bronze armour, and that borne by the Celts who resisted Cæsar, combined with other signs, looks as if they belonged to different peoples. Whether the race of the Bronze differed from that of the Stone Period is a more difficult question. For simplicity's sake, and other reasons, we may assume that they were different, and so connect the three archæological periods with three distinct races. This, however, depends merely on inference, and can neither be fully proved nor disproved.

The second question is:—When did these primitive people occupy the country? otherwise, when did the Archæological Period begin and end? As before stated, this question will receive different answers in different countries. With us, it ended when the Romans began to record the events that took place in Britain. There are traditions and traditional records that seem to stretch further back; but, firstly, the period to which they refer must be fixed, if fixed at all, by the authority of the Roman historians; and, secondly, the date of their composition is unascertained, their meaning uncertain, and the facts they record indistinct. Compared with actual remains, and foreign historians, they are interesting as collateral evidences and illustrations; as independent authorities they are of less value. Briefly, the Archæological Period may be said to have ended about the commencement of our present era; or, rather, to have been ending from the time of the Roman Invasion of England down to the indefinite date when the whole of Scotland could be said to have been Christianized.

But when did it begin? This is even more uncertain, and of less importance. A few generations, or a few centuries, are of little value in the commencement of the history of a rude people. The chief arguments that seem to place the earliest appearance of man at an immense distance from ourselves are:—first, the proof of the existence of man along with animals now extinct; second, the great gap between the

earliest men and ourselves in civilization; third, the numerous remains of primitive times.

In dealing with the first of these, we must remember that the extinction of animals is not peculiar to remote ages, but is continually going on. Badgers and wild cats are now rare; it is scarcely two hundred years since the last wolf was killed in Scotland; a tax was once imposed by a Scottish Parliament on the export of beaver skins; and the reindeer was hunted in Caithness in the 12th century. In like manner, other animals, now extinct, not only here, but everywhere, may have lived down to a more recent date than generally supposed.

The progress of civilization, again, is a very uncertain measure of time. Periods of rapid advance come after generations of stagnation. This is specially the case when the beginnings of progress are supplied from without. Development may then be rapid, even when the power of originating is absent. In the South Sea Islands, for instance, the man who was trained up in the use of the stone hatchet and bone hook may in after years possess and use a watch, telescope, and revolver, all in their several ways, common, and, at the same time, advanced, specimens of utilized science. Fresh starts of this kind seem to have been made with the introduction of Bronze, and again of Iron; and still more energetically by contact with the Romans. But from progress made in this manner we cannot reason up to the length of time spent in a stagnant and totally different state.

On the whole, the multiplicity of remains seems the strongest argument for a lengthened Archæological period in Scotland. The size of some of these shows that they must have been the result of much labour; and the diversity of style looks as if it marked the work of different generations.

The Stone Period appears to have been by far the longest. In it skilled observers trace a certain amount of progress, on which is founded the distinction of Palæolithic and Neolithic, or Older and Newer Stone Period; but it is so obscure as not to demand notice in a brief outline. The Bronze age

seems to have been a period of activity and progress, and to have been accompanied with a certain amount of commerce, for neither copper nor tin, the constituents of bronze, are found in a workable state in Scotland. The metals seem to have been imported separately, and mixed by the manufacturers, several of whose rude foundries have been discovered.

Iron was found by Cæsar in the hands of the Celts. It was worked into articles of very different shape from those found in bronze. Iron remains are not plentiful till we can trace the influence of Roman models.

Religion and *Polity* may be considered together, for in a rudimentary state of society they are generally fused together. We know little of either in the earlier stages of our own land. There must have been a certain measure of union among the people, for the construction of the larger works. And the frequent occurrence of scattered arrow points and sepulchral remains in some special localities shows that there had been battles amongst them, and that looks as if they had been divided into tribes; for their organization could scarcely have been firm enough to admit formal rebellion. The diversity of monuments, too, in the same group may be taken as a proof of diversity of rank, or it may be only of popularity. The custom, not always observed, of burying arms with the dead, and urns, probably containing food, with unburned bodies, looks as if they believed in a future state, and this argument is strengthened when we find the dog and horse occupying a place in the sepulchral tumulus. Further than this we cannot go with certainty. Analogies of remains, such as Standing Stones and Circles, with similar erections in the East, point very plainly to a similarity of worship, and therefore probably of belief, with some of the obscure tribes of Hindostan. The traditional custom of periodical fires, as at Hallow Even, and some other rites and observances which may be pretty clearly traced to heathen sources, are perhaps remains of the worship of the later tribes. Traces of heathen customs may still be found, particularly of the Scandinavian Odin worship. Druidism is said by Cæsar to have been the

established religion of Britain; but what Druidism was is very obscure, beyond the simple fact that it was a different system from the religion of Ancient Rome. The elaborate expositions of Druidism brought forward in the 17th century are chiefly fancy sketches, and held their ground only so long as no one enquired on what foundation they rested.

It must be remembered that all these speculations rest merely upon inference. We cannot cross-question the witnesses where we have witnesses. The bulk of the evidence is circumstantial. We can compare one thing with another, and with similar instances of which we know more; but we cannot complete our case, nor draw any conclusion that claims to be more than a probability. Under these conditions, the deliberately-formed conjecture of an expert is more likely to approach the truth than a rigid induction from any number of premises, however perfect its logical form.

One word more to those who are likely to meet with archæological remains in the course of agricultural or other operations. For a long time, these remains were protected by superstition; at present, they are often destroyed by utilitarianism, or carelessness. What is to be desired is that they should be preserved in full knowledge of their use and meaning. One great point about the moveables is, that when found, they should be consigned to safe keeping, *i.e.*, as a rule, either to the nearest local Museum, or to the National Museum in Edinburgh. Occasionally, a private collector may have a considerable number of specimens, intelligently arranged, but commonly in private hands they are mere curiosities, treated more as children's toys than objects of permanent interest.

In the case of Fixtures, it is desirable that they should be preserved in their original form; and, where this cannot be done, that proper observation should be made when they are demolished. Here, again, the Society of Antiquaries comes into the field. In any case, they will send direction what to watch for; and, if the object be of sufficient interest, will

advance any reasonable sum for the expense of orderly and careful investigation. In all cases, when anything occurs bearing the traces of man's hand, perhaps the best thing to be done is to communicate with the Secretary of the Society of Antiquaries, from whom any authenticated communication will receive due attention. It may be well that this should be done through a clergyman or schoolmaster, or other public person, but any communication will receive attention from the office-bearers of the Society.

THE END.

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PRINTED AT
HAMPSHIRE JOURNAL OFFICE STEAM PRINTING WORKS,
HANDY

00082173

Digitized with financial assistance from
Government of Maharashtra
on 30 January, 2020